

Serial No. 09/638,606

Atty Docket No. GIO-007-US
5702-00007**REMARKS**

Applicants acknowledge with appreciation the allowability of claims 22, 24, 26, 28, 30, and 32 if rewritten in independent form to include all of the limitations of the base claim(s) and any intervening claim(s).

Claims 3, 13-18, 21, 23, 25, 27, 29, 31, and 33 stand rejected under 35 USC 103(a) as being unpatentable over Poole '588 in view of Poole et al. '854.

With regard to claims 3, 18, 21, 23, 25, 27, 29, and 31, and 33, the examiner states that among other things, Poole '588 discloses a gas generator containing a nitrogen-containing gas generant containing a tetrazole that forms a nitrogen oxide or dioxide upon combustion. However, the examiner correctly states that a selective non-catalytic reducing agent, or ammonium containing compound, is not disclosed.

The examiner again correctly states that '854 discloses ammonium carbonate at col. 2, lines 1-4. Nevertheless, this description in '854 also indicates that multi-chambers are employed to treat the gases.

Even so, the examiner should note that the references must be viewed in their entirety. For example, Poole '588 discloses a method of reducing nitrogen oxides and carbon monoxide. No alternative to this method is suggested, nor does Poole suggest that any other measure should be taken to reduce the NOx. For any alternative would supplant what is described below, in contravention of the invention described by Poole:

"...The invention importantly provides means of reducing the NOx and CO in gas

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generant combustion products. This is accomplished by using an alkali metal salt mixed into the propellant. The primary effect is to reduce the NOx, but this allows formulation of the gas generant to provided an excess of oxygen in the combustion products, which reduces the amount of carbon monoxide or well as NOx.

This invention contemplates application of these means to any gas generant which produces NOx and carbon monoxide..." Column 8, lines 39-50 of Poole '588.

The examiner should note that the present invention is distinguishable from Poole '588 in that the selective non-catalytic reducing compound is heterogeneous or separate from the gas generant composition unlike Poole. Poole '588 requires that an alkali metal salt be mixed within the gas generant composition, not in heterogeneous relation therewith as claimed in the present invention. As such, if, as the examiner indicates, ammonium carbonate from Poole '854 were combined with the teachings of Poole '588, it would have to be combined within the gas generant composition. There is nothing within either Poole reference that would suggest that ammonium carbonate be placed proximate to (or in physical contact with) and heterogeneous to the gas generant composition, in contravention of Poole '588.

Stated another way, the examiner has not shown any motivation or suggestion in either reference that would result in the present application as claimed. Even if for the sake of argument it can be stated that all of the limitations of the claims in question are shown in the references when combined, without a showing of a motivation or suggestion to combine, a prima facie case of obviousness is simply not supported.

It should further be noted that Poole '854 apparently teaches away from providing carbon-containing constituents such as ammonium carbonate.

"...It is not desirable to utilize a carbon-containing oxidizer with an oxygen-containing oxidizer because of the possibility of generating an undesired amount of carbon monoxide as one of the combustion products. The preferred oxidizer is potassium chlorate." Column 4, lines 29-38 of '854

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It can therefore be seen that Poole considered the use of additional carbon-containing oxidizers as problematic with regard to carbon monoxide. Poole's only suggestion was to avoid the use of carbon-containing oxidizers, not include them as additives to the propellant bed. Accordingly, Poole '854 apparently teaches away from the use of ammonium carbonate and therefore one of ordinary skill in the art would not in view of the entire teachings of '854 be motivated to heterogeneously combine ammonium carbonate with the gas generant as presently claimed. When a reference teaches away from an invention, it cannot concurrently suggest the same invention.

In sum, neither reference, '588 or '854, when taken alone or in combination with the other, suggests the present invention. Without a showing of proper motivation to combine to result in the invention claimed, an argument of obviousness essentially constitutes impermissible hindsight construction of the claims.

Applicant has amended to clarify the invention and to further distinguish from the prior art. No reference or combination of references of record teach the dispersing of an SNCR agent within a gas generant bed, whereby the SNCR agent is proximate to and heterogeneous with the gas generant as claimed in claims 25, 27, 29, and 31 (or in physical contact with, as amended in claims 3, 21, and 23). The examiner should note that neither reference describes both the heterogeneous relationship between the SNCR agent and the gas generant, and the proximate or physical relationship between the SNCR agent and the gas generant.

In essence, the applicant has solved the problem of reducing the NOx and carbon monoxide in the gaseous effluent in a manner distinct from the method described in '588, that is mixing an alkali metal salt within the gas generant composition, or, by treating the gaseous effluent of combustion in a plurality of chambers. The present invention therefore enables improvement of the effluent

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quality without changing the gas generant composition or mixing within the gas generant composition. Furthermore, the design of the inflator is necessarily simpler given that a plurality of chambers is not required to treat the effluent as described by '854.

In view of the amendments, and in view of the comments given above, Applicants respectfully traverse the remaining rejections and courteously solicit the allowance of claims 3, 13-18, 21, 23, 25, 27, 29, 31, and 33, and passage of the subject application to issue.

Applicants have not calculated an additional fee to be due in connection with this paper. The Commissioner is authorized to charge Deposit Account No. 50-3238 for any deficiencies in connection with this paper. If the Applicants can be of any further assistance, the examiner is invited to contact the undersigned at the number given below.

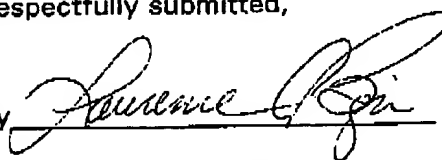
Respectfully submitted,

Date

10/17/05

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